YAMAHA

XJ900S(G)'95

4KM-SE1

SERVICE INFORMATION

FOREWORD

This Service Information has been prepared to introduce new service and data for the XJ900S(G) '95. For complete service information procedures it is necessary to use this publication together with the following microfiche service manual.

XJ900S(G) '95 SERVICE MANUAL: 4KM-ME1

NOTICE

This manual was written by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha motorcycles have a basic understanding of the mechanical concepts and procedures inherent in motorcycle repair technology. Without such knowledge, attempted repairs or service to this model may render it unfit to use and/or unsafe.

Yamaha Motor Company, Ltd. is continually striving to improve all models manufactured by Yamaha. Modifications and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha dealers and will, where applicable, appear in future editions of this manual.

HOW TO USE THIS MANUAL

PARTICULARY IMPORTANT INFORMATION

This material is distinguished by the following notation.

⚠ The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

⚠ WARNING Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander, or a person inspecting or repairing the motorcycle.

CAUTION: A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.

NOTE: A NOTE provides key information to make procedures easier or clearer.

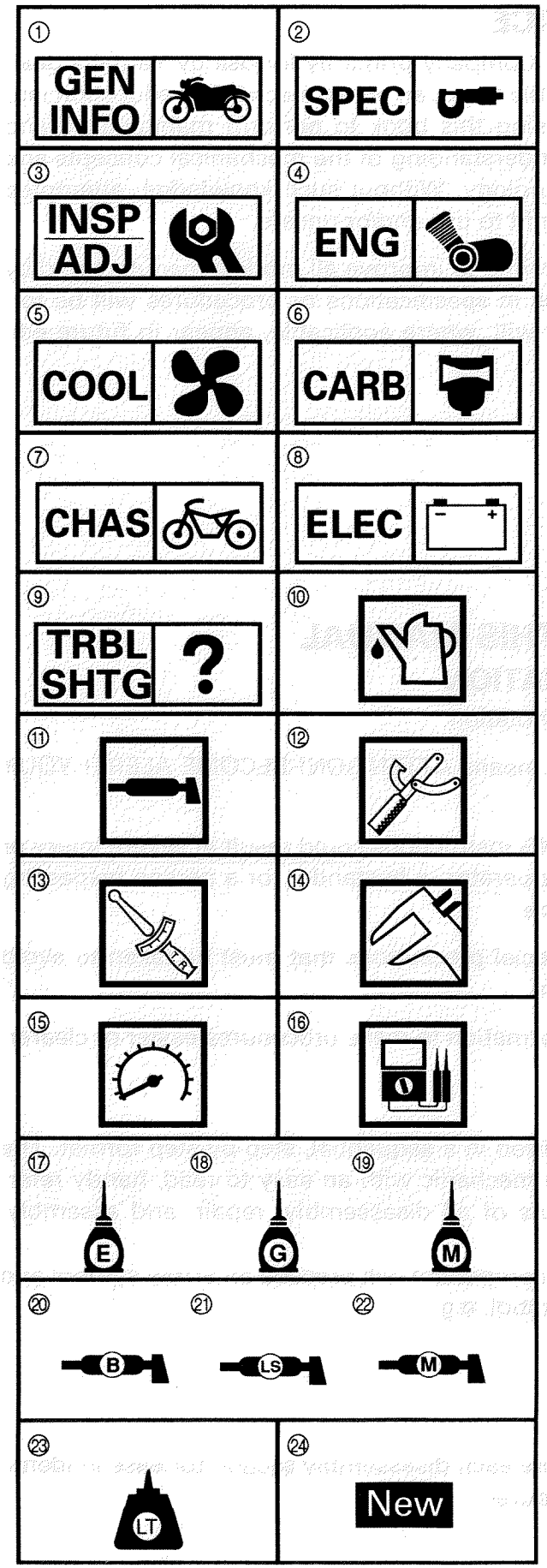
MANUAL FORMAT

All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, and assembly, inspection operations.
In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.,

- Bearings
  Pitting/Damage → Replace.

EXPLODED DIAGRAM

Each chapter provides exploded diagrams before each disassembly section for ease in identifying correct disassembly and assembly procedures.



ILLUSTRATED SYMBOLS
(Refer to the illustration)

Illustrated symbols ① to ⑨ are designed as thumb tabs to indicate the chapter's number and content.

① General information
② Specifications
③ Periodic inspection and adjustment
④ Engine
⑤ Cooling system
⑥ Carburetion
⑦ Chassis
⑧ Electrical
⑨ Troubleshooting

Illustrated symbols ⑩ to ⑯ are used to identify the specifications appearing in the text.

⑩ Filling fluid
⑪ Lubricant
⑫ Special tool
⑬ Tightening
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Ω,V,A

Illustrated symbols ⑰ to ㉔ in the exploded diagram indicate grade of lubricant and location of lubrication point.

⑰ Apply engine oil
⑱ Apply gear oil
⑲ Apply molybdenum disulfide oil
⑳ Apply wheel bearing grease
㉑ Apply lightweight lithium-soap base grease
㉒ Apply molybdenum disulfide grease
㉓ Apply locking agent (LOCTITE®)
㉔ Use new one

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	XJ900S
Model code:	4KM1
Engine starting number:	4KM-000101
Frame starting number:	4KM-000101
Dimensions:	
Overall length	2,230 mm
Overall width	735 mm
Overall height	1,300 mm
Seat height	795 mm
Wheelbase	1,505 mm
Minimum ground clearance	130 mm
Minimum turning radius	3,000 mm
Basic weight:	
With oil and full fuel tank	265 kg
Engine:	
Engine type	Air-cooled 4-stroke, DOHC
Cylinder arrangement	Forward-inclined parallel 4-cylinder
Displacement	892 cm^3
Bore × stroke	68.5 × 60.5 mm
Compression ratio	10:1
Compression pressure (STD)	1,200 kPa (12 kg/cm^2, 12 bar) at 330 r/min
Starting system	Electric starter
Lubrication system:	Wet sump
Oil type or grade:	
Engine oil	SAE20W40 type SE motor oil
Final gear oil:	SAE80API "GL-4" Hypoid Gear Oil
Oil capacity:	
Engine oil	
Periodic oil change	3.2 L
With oil filter replacement	3.4 L
Total amount	4.4 L
Final gear case oil	
Total amount	0.2 L
Air filter:	Dry type element
Fuel:	
Type	Regular unleaded gasoline
Fuel tank capacity	24 L
Fuel reserve amount	5 L

GENERAL SPECIFICATIONS

SPEC

Model		XJ900S
Carburetor:		
Type / quantity		BDSR34/4
Manufacturer		MIKUNI
Spark plug:		
Type		DPR8EA-9/X24EPR-U9
Manufacturer		NGK/NIPPONDENSO
Spark plug gap		0.8 ~ 0.9 mm
Clutch type:		Wet, multiple-disc
Transmission:		
Primary reduction system		Spur gear
Primary reduction ratio		97/58 (1.672)
Secondary reduction system		Shaft drive
Secondary reduction ratio		46/38X19/18X32/11 (3.717)
Transmission type		Constant mesh 5-speed
Operation		Left foot operation
Gear ratio	1st	35/16 (2.188)
	2nd	30/20 (1.500)
	3rd	30/26 (1.154)
	4th	28/30 (0.933)
	5th	26/32 (0.813)
Chassis:		
Frame type		Double cradle
Caster angle		27°
Trail		121 mm
Tire:		
Type		Tubeless
Size	front	120/70-17 58V
	rear	150/70-17 69V
Manufacturer	front	METZLER/BRIDGESTONE/DUNLOP
	rear	METZLER/BRIDGESTONE/DUNLOP
Type	front	ME33/G601/K505F
	rear	ME55A/G602/K505
Tire pressure (cold tire):		
Maximum load-except motorcycle		205 kg
Loading condition A*		0 ~ 90 kg
	front	225 kPa (2.25 kg/cm^2, 2.25 bar)
	rear	250 kPa (2.5 kg/cm^2, 2.5 bar)
Loading condition B*		90 ~ 205 kg
	front	250 kPa (2.5 kg/cm^2, 2.5 bar)
	rear	290 kPa (2.9 kg/cm^2, 2.9 bar)
Brake:		
Front brake	type	Dual disc brake
	operation	Right hand operation
Rear brake	type	Single disc brake
	operation	Right foot operation

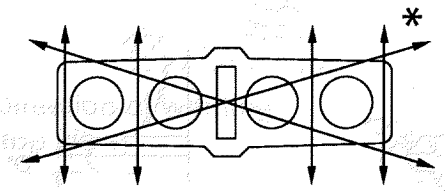
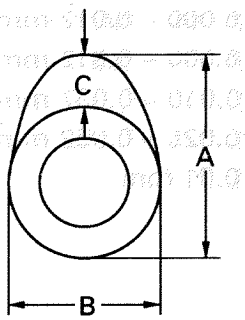
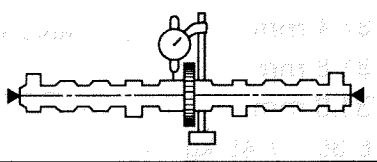
GENERAL SPECIFICATIONS

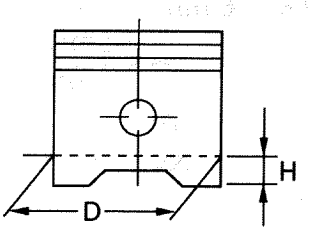
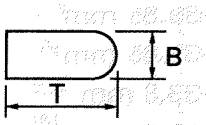
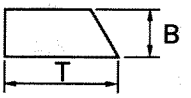
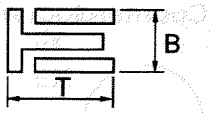
SPEC

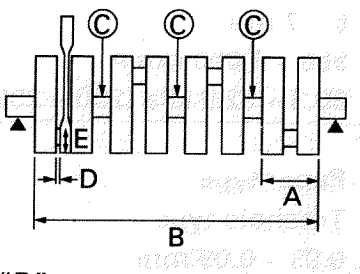
Model	XJ900S
Suspension:	
Front suspension	Telescopic fork
Rear suspension	Swingarm (link suspension)
Shock absorber:	
Front shock absorber	Coil spring / Oil damper
Rear shock absorber	Coil-gas spring / Oil damper
Wheel travel:	
Front wheel travel	140 mm
Rear wheel travel	110 mm
Electrical:	
Ignition system	T.C.I. (digital)
Generator system	A.C. generator
Battery type	YTX14-BS
Battery capacity	12 V 12 AH
Headlight type:	Quartz bulb (halogen)
Bulb wattage × quantity:	
Headlight	12 V 60 W / 55 W
Auxiliary light	12 V 4 W × 1
Tail / brake light	12 V 5 W / 21 W × 2
Flasher light	12 V 21 W × 4
Licence light	12 V 5 W × 2
Meter light	12 V 3.4 W × 4
Indicator light	
NEUTRAL	12 V 3.4 W × 1
TURN	12 V 3.4 W × 2
OIL LEVEL	12 V 3.4 W × 1
HIGH BEAM	12 V 3.4 W × 1
FUEL	12 V 3.4 W × 1

MAINTENANCE SPECIFICATIONS

ENGINE

Model		XJ900S
Cylinder head:		
Warp limit		0.03 mm
		
Cylinder:		
Bore size		68.49 ~ 68.54 mm
Taper limit		0.05 mm
Out of round limit		0.01 mm
Camshaft:		
Drive method		Chain drive (center)
Cam cap inside diameter		25.000 ~ 25.021 mm
Camshaft outside diameter		24.967 ~ 24.980 mm
Shaft-to-cap clearance		0.020 ~ 0.054 mm
Cam dimensions		
		
Intake	"A"	36.75 ~ 36.85 mm
	"B"	27.975 ~ 28.075 mm
	"C"	8.75 ~ 8.85 mm
Exhaust	"A"	36.75 ~ 36.85 mm
	"B"	27.975 ~ 28.075 mm
	"C"	8.75 ~ 8.85 mm
Camshaft runout limit		0.03 mm
		

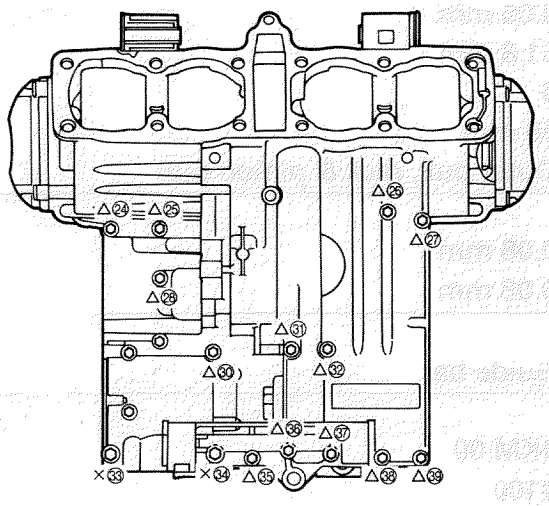
Model		XJ900S
Piston size "D"		68.45 ~ 68.50 mm
		
Measuring point "H"		5.5 mm
Oversize	2nd	69 mm
	4th	69.5 mm
Piston off-set		0.5 mm
Piston off-set direction		IN side
Piston pin bore inside diameter		16.002 ~ 16.013 mm
Piston pin outside diameter		15.990 ~ 16.000 mm
Piston rings:		
Top ring:		
		
Type		Barrel
Dimensions (B × T)		1.2 × 2.5 mm
End gap (installed)		0.10 ~ 0.25 mm
Side clearance (installed)		0.025 ~ 0.080 mm
2nd ring:		
		
Type		Taper
Dimensions (B × T)		1.2 × 3.1 mm
End gap (installed)		0.30 ~ 0.45 mm
Side clearance		0.02 ~ 0.06 mm
Oil ring:		
		
Dimensions (B × T)		2.5 × 2.8 mm
End gap (installed)		0.2 ~ 0.7 mm
Connecting rod:		
Oil clearance		0.026 ~ 0.055 mm

Model		XJ900S
Crankshaft:		
		
Assembly width "B"		340.8 ~ 342.0 mm
Runout limit "C"		0.03 mm
Big end side clearance "D"		0.160 ~ 0.262 mm
Big end radial clearance "E"		0.016 ~ 0.040 mm
Journal oil clearance		0.020 ~ 0.052 mm
Color code (corresponding size)		① Blue ② Black ③ Brown ④ Green ⑤ Yellow
Clutch:		
Friction plate thickness		2.9 ~ 3.1 mm
Quantity		8
Friction plate wear limit		2.8 mm
Clutch plate thickness		1.9 ~ 2.1 mm
Quantity		7
Warp limit		0.05 mm
Clutch spring free length		51.8 mm
Quantity		6
Minimum length		50 mm
Clutch release method		Outer pull, rack & pinion pull
Transmission:		
Main axle deflection limit		0.08 mm
Drive axle deflection limit		0.08 mm
Shifter:		
Shifter type		Guide bar
Carburetor:		
I. D. mark		4KM 00
Main jet	(M.J)	#100
Main air jet	(M.A.J)	#72.5
Jet needle	(J.N)	5DT3-2
Needle jet	(N.J)	0-2
Pilot air jet	(P.A.J.1)	#120
Pilot outlet	(P.O)	1.0
Pilot jet	(P.J)	#12.5
Bypass 1	(B.P.1)	0.9
Bypass 2	(B.P.2)	0.8
Bypass 3	(B.P.3)	0.9
Pilot screw	(P.S)	1-1/2
Valve seat size	(V.S)	1.5

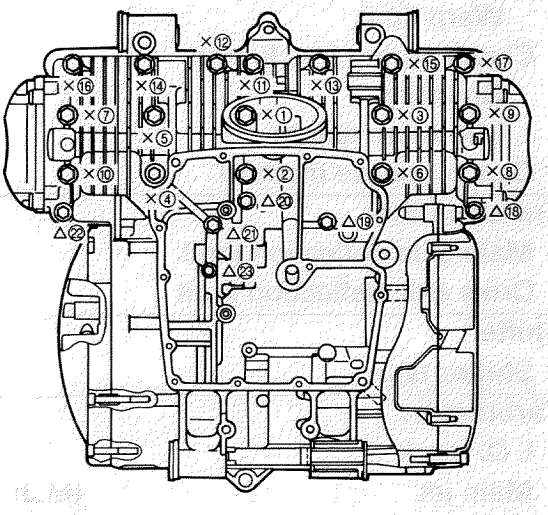
Model		XJ900S
Starter jet	(G.S.1)	#30
Throttle valve size	(Th.V)	#125
Fuel level	(F.L)	6 ~ 7 mm
Engine idle speed		950 ~ 1,050 r/min
Intake vacuum		30.3 ~ 32.9 kPa (230 ~ 250 mmHg)
Lubrication system:		
Oil filter type		Paper type
Oil pump type		Trochoid type
Tip clearance		0.03 ~ 0.09 mm
Side clearance		0.03 ~ 0.08 mm
Bypass valve setting pressure		120 ~ 160 kPa (1.2 ~ 1.6 kg/cm², 1.2 ~ 1.6 bar)
Relief valve operating pressure		540 ~ 660 kPa (5.4 ~ 6.6 kg/cm², 5.4 ~ 6.6 bar)
Oil pressure (hot)		80 kPa (0.8 kg/cm², 0.8 bar) at 1,000 r/min
Shaft drive:		
Middle gear backlash		0.1 ~ 0.2 mm
Final gear backlash		0.1 ~ 0.2 mm

Crankcase tightening sequence:

Crankcase (upper)



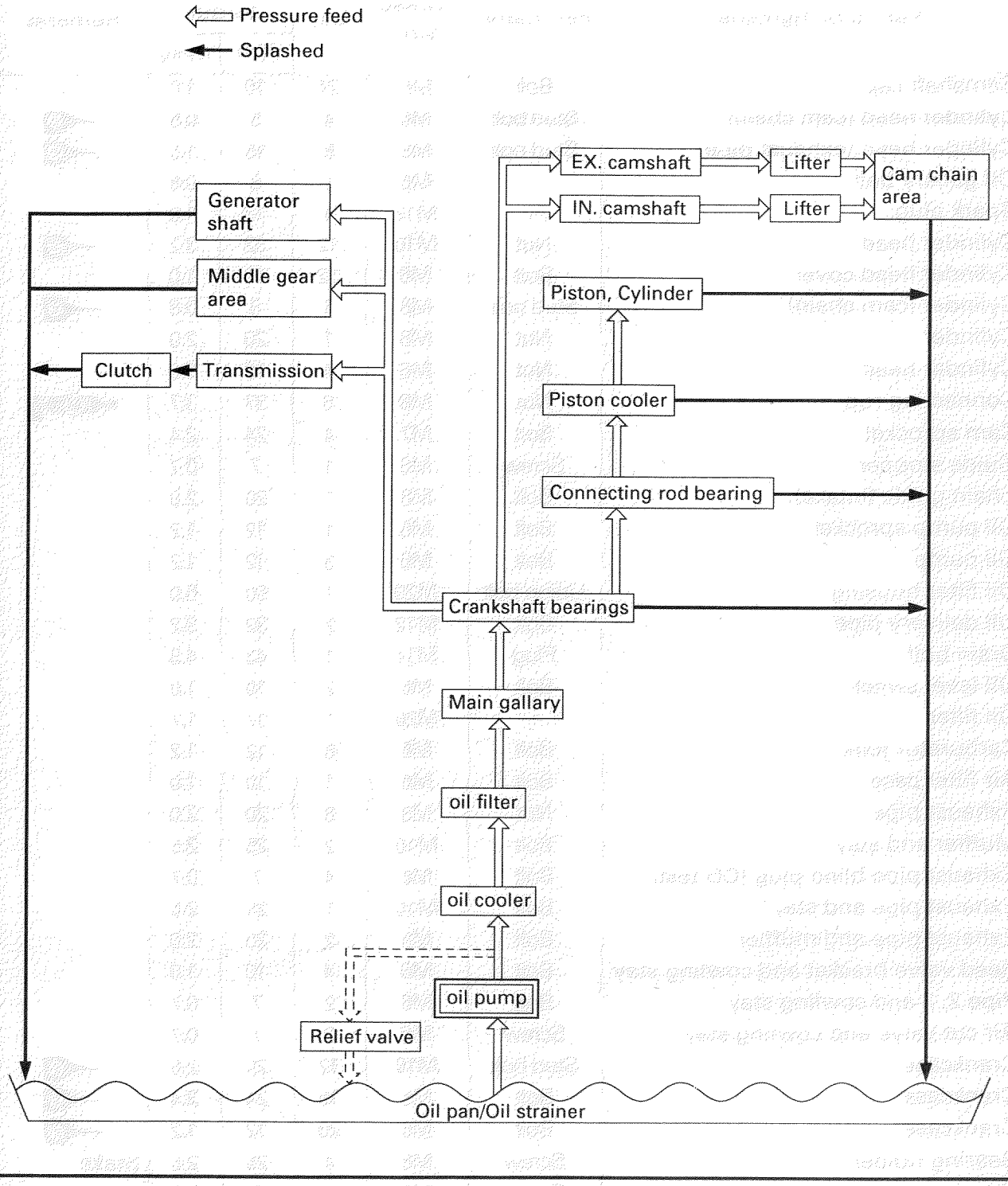
Crankcase (lower)



×: M8 bolt: 24 Nm (2.4 m • kg)
△: M6 bolt: 12 Nm (1.2 m • kg)

Model	XJ900S

Lubrication chart:



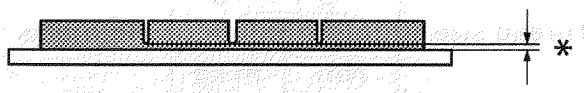
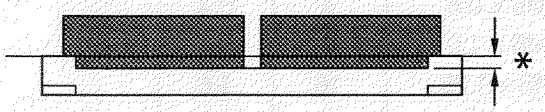
Tightening torques

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m·kg	
Camshaft cap	Bolt	M6	24	10	1.0	
Cylinder head (cam chain)	Stud bolt	M6	4	5	0.5	E
Cylinder head (exhaust pipe)	Stud bolt	M8	8	15	1.5	E
Oil gallery bolt	—	M6	1	8	0.8	
Spark plug	—	M12	4	18	1.8	
Cylinder head	Nut	M10	12	32	3.2	E
Cylinder head cover	Bolt	M6	12	10	1.0	
Cylinder (cam chain)	Stud bolt	M8	1	8	0.8	E
Cylinder	Nut	M8	1	20	2.0	
Cylinder head	Nut	M6	4	10	1.0	
Connecting rod	Nut	M8	8	37	3.7	M
Cam sprocket	Bolt	M7	4	24	2.4	
Guide stopper	Screw	M6	1	7	0.7	
Chain guide (intake)	Bolt	M8	1	20	2.0	
Oil pump sprocket	Bolt	M6	1	12	1.2	
Oil pump	Bolt	M6	3	12	1.2	
Oil filter housing	Union bolt	M20	1	50	5.0	
Oil delivery pipe	Bolt	M12	2	32	3.2	
Drain bolt	Plug	M14	1	43	4.3	
Oil level switch	Bolt	M6	2	10	1.0	
Oil filter	—	M20	1	17	1.7	
Carburetor joint	Bolt	M6	8	12	1.2	
Air filter case	Bolt	M6	1	10	1.0	
Exhaust pipe	Nut	M8	8	20	2.0	
Muffler and stay	Bolt	M10	2	25	2.5	
Exhaust pipe blind plug (CO test)	Bolt	M6	4	7	0.7	
Exhaust pipe and stay	Bolt	M10	1	25	2.5	
Exhaust pipe and muffler	Bolt	M8	2	20	2.0	
Reed valve bracket and cowling stay	Bolt	M6	4	10	1.0	
Pipe 2, 3 and cowling stay	Bolt	M6	2	7	0.7	
Air cut valve and cowling stay	Screw	M6	2	7	0.7	
Crankcase	Stud bolt	M10	12	20	2.0	E
Crankcase	Bolt	M8	19	24	2.4	E
Crankcase	Bolt	M6	20	12	1.2	E
Bearing holder	Screw	M8	4	25	2.5	Stake
Cover	Screw	M6	7	8	0.8	
Cover	Screw	M6	1	8	0.8	LT
Shift shaft lever cover	Bolt	M6	10	12	1.2	
Drive axle bearing housing	Bolt	M6	3	12	1.2	
Clutch cover	Bolt	M6	10	12	1.2	

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m·kg	
Clutch cable stay	Bolt	M6	2	12	1.2	
Generator bearing housing	Bolt	M6	3	10	1.0	
Plate stopper	Bolt	M6	1	10	1.0	Use lock washer
HY-VO chain guide	Bolt	M6	2	10	1.0	
Clutch spring	Screw	M6	6	8	0.8	
Clutch boss	Nut	M20	1	70	7.0	Use lock washer
Middle drive pinion gear	Nut	M18	1	110	11	Use lock washer
Yoke joint	Nut	M14	1	90	9.0	
Middle driven bearing housing	Bolt	M8	4	25	2.5	
Shift pedal adjuster	Nut	M6	2	10	1.0	
Shift arm	Bolt	M6	1	10	1.0	
Shift cam bearing holder	Screw	M6	2	10	1.0	
Self locking nut	—	M14	1	110	11	
Final gear bearing housing	Bolt	M10	2	23	2.3	
Final gear bearing housing	Nut	M8	6	23	2.3	
Final gear oil filler bolt	Plug	M14	1	23	2.3	
Final gear oil drain plug	Plug	M14	1	23	2.3	
Final drive bearing retainer	—	M65	1	110	11	
Final gear case	Stud bolt	M10	4	18	1.8	
Final gear case	Stud bolt	M8	6	9	0.9	
Final gear case and swingarm	Nut	M10	4	42	4.2	
A.C. generator	Bolt	M8	2	25	2.5	
A.C. generator	Bolt	M8	1	25	2.5	LT
Pickup coil base	Screw	M6	2	8	0.8	
Timing plate	Bolt	M10	1	45	4.5	
Starter motor	Bolt	M6	1	7	0.7	YAMAHA Bold No. 1215
Starter motor and crankcase	Bolt	M6	1	12	1.2	E
Neutral switch	—	M10	1	20	2.0	

CHASSIS

Model		XJ900S
Steering system:		
Steering bearing type		Ball bearing
Front suspension:		
Front fork travel		140 mm
Fork spring free length		505 mm
Spring rate	(K1)	5.0 N/mm (0.5 kg/mm)
	(K2)	9.0 N/mm (0.9 kg/mm)
Stroke	(K1)	0 ~ 80 mm
	(K2)	80 ~ 140 mm
Optional spring		No
Oil capacity		444 cm^3
Oil level		133 mm
Oil grade		Fork oil 5 W or equivalent
Rear suspension:		
Shock absorber travel		50 mm
Spring free length		177 mm
Fitting length		161.5 mm (157.5 ~ 165.5 mm)
Spring rate	(K1)	155.0 N/mm (15.5 kg/mm)
Stroke	(K1)	0 ~ 50 mm
Optional spring		No
Swingarm:		
Free play limit	end	1 mm
	side	1 mm
Front wheel:		
Type		Cast wheel
Rim size		17 X MT3.00
Rim material		Aluminum
Rim runout limit	radial	1 mm
	lateral	0.5 mm
Rear wheel:		
Type		Cast wheel
Rim size		17 X MT4.00
Rim material		Aluminum
Rim runout limit	radial	1 mm
	lateral	0.5 mm
Front disc brake:		
Type		Dual
Disc outside diameter × thickness		320 × 4 mm
Disc deflection limit		0.15 mm
Pad thickness	inner	6.1 mm
<Limit>		<0.8 mm>
Pad thickness	outer	6.1 mm

Model	XJ900S
<Limit>	<0.8 mm>
	
Master cylinder inside diameter	15.87 mm
Caliper cylinder inside diameter	30.2 mm
Caliper cylinder inside diameter	33.3 mm
Brake fluid type	DOT #4
Rear disc brake:	
Type	Single
Disc outside diameter × thickness	267 × 5 mm
Disc deflection limit	0.15 mm
Pad thickness inner	5.5 mm
<Limit>	<0.5 mm>
Pad thickness outer	5.5 mm
<Limit>	<0.5 mm>
	
Master cylinder inside diameter	14 mm
Caliper cylinder inside diameter	42.85 mm
Brake fluid type	DOT #4
Brake lever & brake pedal:	
Brake lever free play (at lever pivot)	0 mm
Brake pedal position	30 mm
Brake pedal free play	0 mm
Clutch lever free play (at lever end)	10 ~ 15 mm
Throttle cable free play	3 ~ 5 mm

Tightening torques

Part to be tightened	Thread size	Tightening torque		Remarks
		Nm	m·kg	
Chassis:				
Handle crown and inner tube	M8 × 1.25	30	3.0	
Handle crown and steering stem	M14 × 1.25	110	11.0	
Handle crown and handlebar (upper)	M8 × 1.25	23	2.3	
Steering stem and ring nut	M25 × 1.0	18	1.8	
		See "NOTE"		
Front master cylinder and cap	M4 × 0.7	2	0.2	
Front master cylinder and bracket	M6 × 1.0	9	0.9	
Front brake hose and union bolt	M10 × 1.25	30	3.0	
Cowling and cowling stay	M5 × 0.8	0.7	0.07	
Cowling and frame	M5 ×0.8	0.7	0.07	
Cowling and windscreen	M5 × 0.8	0.7	0.07	
Cowling and inner panel	M5 × 0.8	4	0.4	
Cowling and headlight	M6 × 1.0	7	0.7	
Cowling stay and frame	M8 × 1.25	16	1.6	
	M6 × 1.0	7	0.7	
Cowling stay and meter	M6 × 1.0	7	0.7	
Cowling stay and front flasher light	M12 × 1.25	13	1.3	
Meter and meter cable	M12 × 1.0	3	0.3	
Brake hose holder and front fork	M6 × 1.0	7	0.7	
Engine mount (front-upper/lower)	M10 × 1.25	48	4.8	
(rear-upper/lower)	M10 × 1.25	48	4.8	
Down tube and frame	M10 × 1.25	89	8.9	
Engine stay (front) and frame	M8 × 1.25	30	3.0	
Engine stay (rear) and frame	M8 × 1.25	30	3.0	
Pivot shaft (left) and frame	M22 × 1.5	100	10.0	
Pivot shaft (right) and frame	M22 × 1.5	7	0.7	
Pivot shaft (right) and locknut	M22 × 1.5	100	10.0	
Relay arm and frame	M10 × 1.25	48	4.8	
Relay arm and connecting rod	M12 × 1.25	48	4.8	
Connecting rod and rear arm	M12 × 1.25	48	4.8	
Rear shock absorber and frame	M10 × 1.25	40	4.0	
Rear shock absorber and relay arm	M10 × 1.25	48	4.8	
Fuel cock and fuel tank	M6 × 1.0	7	0.7	
Fuel sender and fuel tank	M5 × 0.8	4	0.4	
Rear fender and frame	M6 × 1.0	7	0.7	
Taillight	M6 × 1.0	7	0.7	
Rear fender cover and side cover	M5 × 0.8	4	0.4	
Side cover and frame	M5 × 0.8	4	0.4	
Rear fender stay and frame	M6 × 1.0	10	1.0	

MAINTENANCE SPECIFICATIONS

SPEC

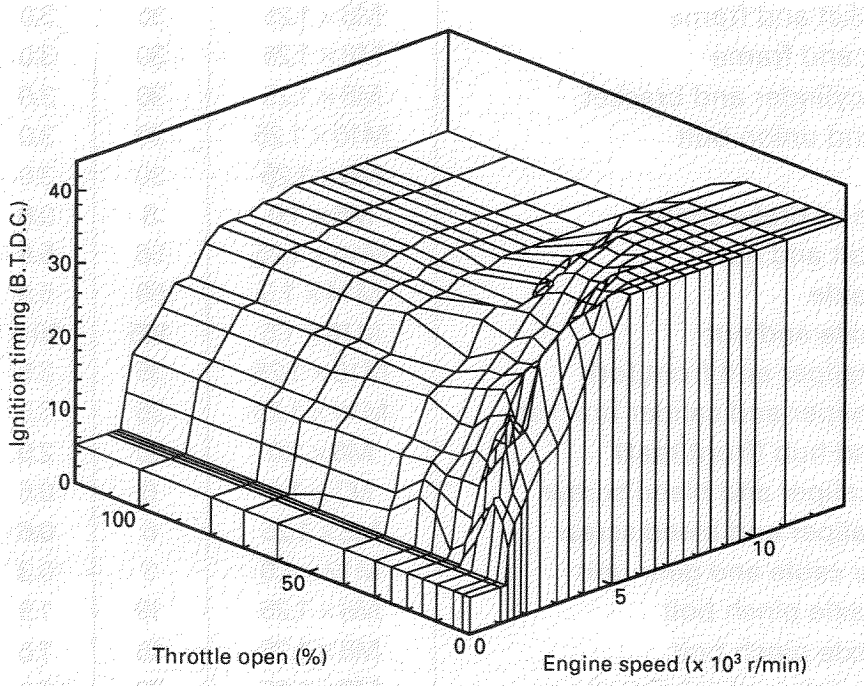
Part to be tightened	Thread size	Tightening torque		Remarks
		Nm	m·kg	
Rear brake reservoir tank and rear fender	M6× 1.0	7	0.7	
Rear flasher light and rear fender	M12× 1.25	4	0.4	
Reflector bracket and rear fender	M4× 0.7	3	0.3	
Rear fender and flap	M4× 0.7	3	0.3	
Battery cover and frame	M6× 1.0	7	0.7	
Footrest bracket and frame	M8× 1.25	30	3.0	
Rear footrest and frame	M8× 1.25	30	3.0	
Rear master cylinder and bracket	M8× 1.25	30	3.0	
Brake hose and union bolt	M10× 1.25	30	3.0	
Shift pedal	M8× 1.25	30	3.0	
Brake pedal and brake shaft	M6× 1.0	8	0.8	
Mainstand bolt and nut	M10× 1.25	56	5.6	
Front wheel axle	M14× 1.5	59	5.9	
Rear wheel axle and nut	M16× 1.5	105	10.5	
Front brake caliper and front fork	M10× 1.25	35	3.5	
Rear brake caliper and caliper bracket	M10× 1.25	35	3.5	
Disc brake and hub (front/rear)	M6× 1.0	20	2.0	LT
Front brake caliper and bleed screw	M7× 1.0	6	0.6	
Rear brake caliper and bleed screw	M8× 1.25	6	0.6	
Speedometer cable and gear unit	M12× 1.0	3	0.3	
Front wheel axle pinch bolt	M8× 1.25	19	1.9	
Rear wheel axle pinch bolt	M8× 1.25	16	1.6	
Front brake caliper retaining bolt	M8× 1.25	22	2.2	
Front fender and front fork	M6× 1.0	9	0.9	
Rear brake hose and hose joint	M10× 1.0	16	1.6	
Rear brake caliper and hose joint	M10× 1.0	30	3.0	

NOTE:

1. First, tighten the ring nut approximately 52 Nm (5.2 m • kg) by using the torque wrench, then loosen the ring nut one turn.
2. Retighten the ring nut to specification.

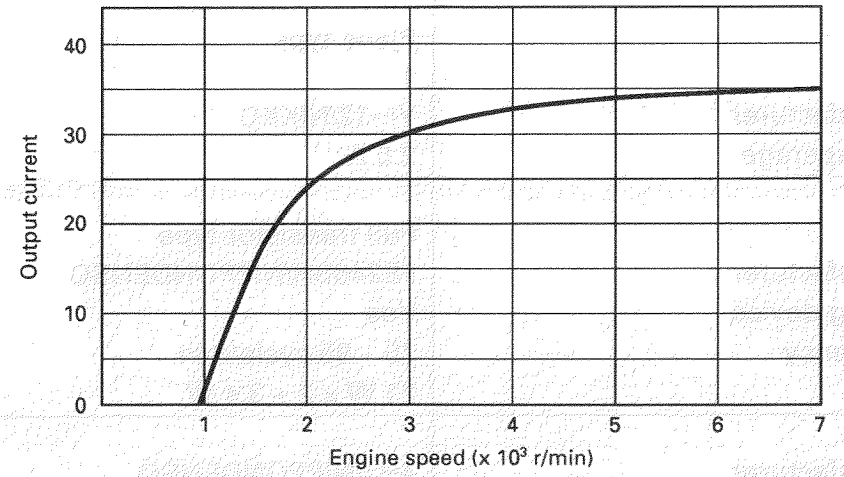
ELECTRICAL

Model	XJ900S
Voltage:	12 V
Ignition system:	
Ignition timing (B.T.D.C.)	5° at 1,000 r/min
Advanced timing (B.T.D.C.)	40° at 5,000 r/min
Advancer type	Electrical type



T.C.I.:	
Pickup coil resistance / color	446 ~ 545 Ω at 20°C / White/Red – White/Green
T.C.I. unit model / manufacturer	J4T051/MITSUBISHI
Ignition coil:	
Model / manufacturer	JO312,JO313/NIPPONDENSO
Minimum spark gap	6 mm
Primary winding resistance	1.87 ~ 2.53 Ω at 20°C
Secondary winding resistance	12 ~ 18 kΩ at 20°C
Spark plug cap:	
Type	Resin type
Resistance	10 kΩ
Charging system:	
Type	A.C. generator
Model / manufacturer	B3G/NIPPONDENSO
Nominal output	14 V 33 A at 5,000 r/min

Model	XJ900S



Rotor coil resistance	2.76 ~ 3.05 Ω at 20°C
Stator coil resistance	0.19 ~ 0.21 Ω at 20°C
Brush overall length	13.7 mm
<Wear limit>	<4.7 mm>
Spring force	520 ~ 580 g
Voltage regulator:	
Type	Semi-conductor, field control type
Model / manufacturer	B3G/NIPPONDENSO
No load regulated voltage	14.2 ~ 14.8 V
Rectifier:	
Model / manufacturer	B3G/NIPPONDENSO
Withstand voltage	200 V
Battery:	
Specific gravity	1.320
Electric starter system:	
Type	Constant mesh type
Starter motor:	
Model / manufacturer	DB4DT/NIPPONDENSO
Output	0.6 kW
Armature coil resistance	0.013 ~ 0.015 Ω at 20°C
Brush overall length	12 mm
<Limit>	<8.5 mm>
Spring force	650 ~ 950 g
Commutator diameter	28 mm
<Wear limit>	<27 mm>
Mica undercut	0.6 mm
Starter switch:	
Model / manufacturer	MS5F/JIDECO
Amperage rating	100 A
Coil winding resistance	4.18 ~ 4.62 Ω at 20°C

Model	XJ900S
Horn:	
Type	Plane type
Quantity	1
Model / manufacturer	YF-12/NIKKO
Maximum amperage	2.5 A
Flasher relay:	
Type	Full transistor type
Model / manufacturer	FE246BH/NIPPONDENSO
Self cancelling device	Yes
Flasher frequency	75 ~ 95 cycle/min
Wattage	21 W × 2 + 3.4 W
Oil level switch:	
Model / manufacturer	4H7/NIPPONDENSO
Fuel gauge:	
Model / manufacturer	4KM/NIPPONDENSO
Sender unit resistance full	4 ~ 10 Ω at 20°C
empty	90 ~ 100 Ω at 20°C
Starting circuit cut off relay:	
Model / manufacturer	3EN/OMRON
Coil winding resistance	202.5 ~ 247.5 Ω at 20°C
Diode	Yes
Circuit breaker:	
Type	Fuse
Amperage for individual circuit	
MAIN	30 A × 1
HEAD	15 A × 1
SIGNAL	20 A × 1
IGNITION	10 A × 1
CLOCK	10 A × 1
Reserve	20 A × 1
Reserve	10 A × 1

EXCLUSIVE SPECIFICATION

The following specifications are exclusive for the below listed countries.

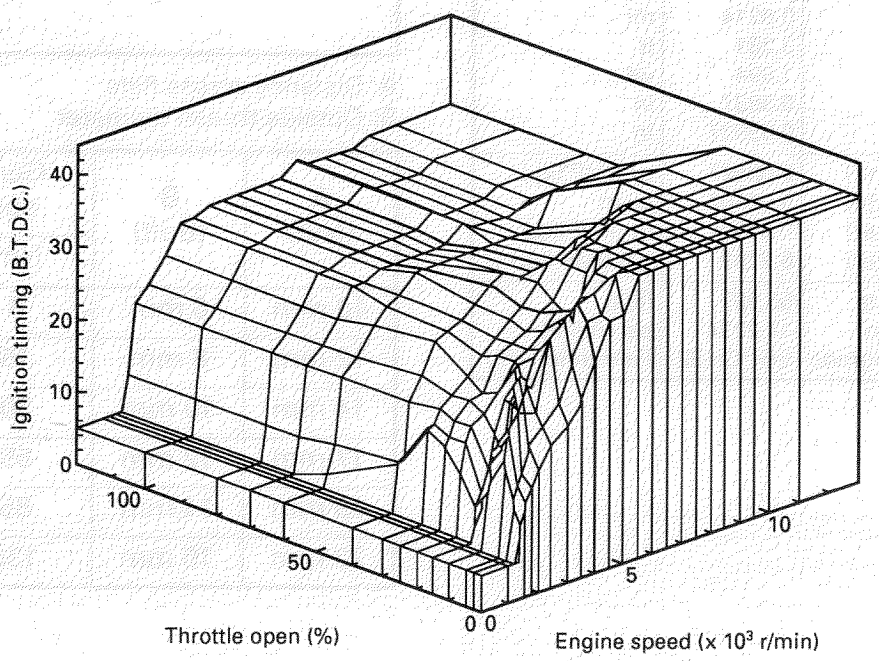
For specifications other than below, please refer to the General and maintenance specifications.

For Spain

Model code:	4KM2
Engine starting number:	4KM-023101
Vehicle identification number:	JYA4KMS0*SA023101

For Switzerland, Austria

Model code:	4PR1
Engine starting number:	4PR-000101
Frame starting number:	4PR-000101
Carburetor: I.D. mark	4PR00
Ignition system: Advancer type	



T.C.I.: T.C.I. unit model/manufacturer	J4T052/MITSUBISHI

For Australia

Model code:	4PS1
Engine starting number:	4PS-000101
Vehicle identification number:	JYA4PST0*SA000101
Fuel: Type	Unleaded fuel only

HOW TO USE THE CONVERSION TABLE

All specification data in this manual is listed in SI and METRIC UNITS.
Use this table to convert METRIC unit data to IMP unit data.

Ex.

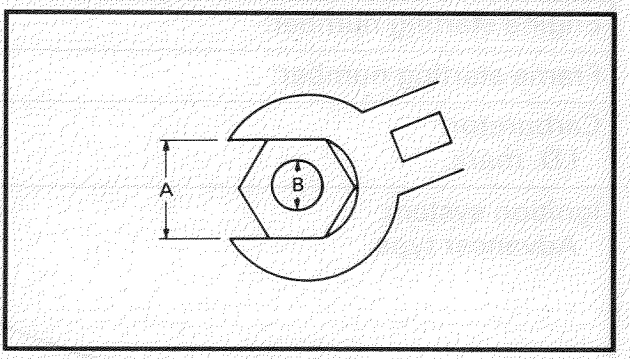
METRIC		MULTIPLIER		IMP
** mm	×	0.03937	=	** in
2 mm	×	0.03937	=	0.08 in

CONVERSION TABLE

METRIC TO IMP			
	Known	Multiplier	Result
Torque	m·kg	7.233	ft·lb
	m·kg	86.794	in·lb
	cm·kg	0.0723	ft·lb
	cm·kg	0.8679	in·lb
Weight	kg	2.205	lb
	g	0.03527	oz
Distance	km/hr	0.6214	mph
	km	0.6214	mi
	m	3.281	ft
	m	1.094	yd
	cm	0.3937	in
	mm	0.03937	in
Volume/ Capacity	cc (cm^3)	0.03527	oz (IMP liq.)
	cc (cm^3)	0.06102	cu·in
	lit (liter)	0.8799	qt (IMP liq.)
	lit (liter)	0.2199	gal (IMP liq.)
Miscella-neous	kg/mm	55.997	lb/in
	kg/cm^2	14.2234	psi (lb/in^2)
	Centigrade	9/5(°C)+32	Fahrenheit (°F)

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multi-fastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.



A: Distance across flats
B: Outside thread diameter

A (Nut)	B (Bolt)	General torque specifications	
		Nm	m•kg
10 mm	6 mm	6	0.6
12 mm	8 mm	15	1.5
14 mm	10 mm	30	3.0
17 mm	12 mm	55	5.5
19 mm	14 mm	85	8.5
22 mm	16 mm	130	13.0

LUBRICATION POINT AND GRADE OF LUBRICANT

ENGINE

Lubrication Point	Symbol
Oil seal lips	LS
O-ring	LS
Bearing	E
Piston surface	E
Piston pin	E
Crankshaft pin	E
Crankshaft journal/big end	E
Connecting rod bolt/nut	M
Connecting rod small end	M
Middle drive shaft (drive damper cam/driven damper cam)	M
Middle drive gear	E
Middle driven gear	E
Camshaft cam lobe/journal	M
Valve stem (IN, EX)	M
Valve stem end (IN, EX)	E
Valve lifter	E
Oil pump rotor (inner/outer), housing	E
Oil strainer assembly	E
Idle gear surface	E
Starter idle gear	E
Starter idle gear shaft	E
Starter clutch (outer/roller)	E
Crankcase cover (pull rod hole)	M
Primary drive gear/damper	E
Transmission gear (wheel/pinion)	M
Axle (main/drive)	M
Pull rod (bearing/washer)	LS
Shift cam	E
Shift fork/guide bar	E
Shift shaft assembly	E

LUBRICATION POINT AND GRADE OF LUBRICANT

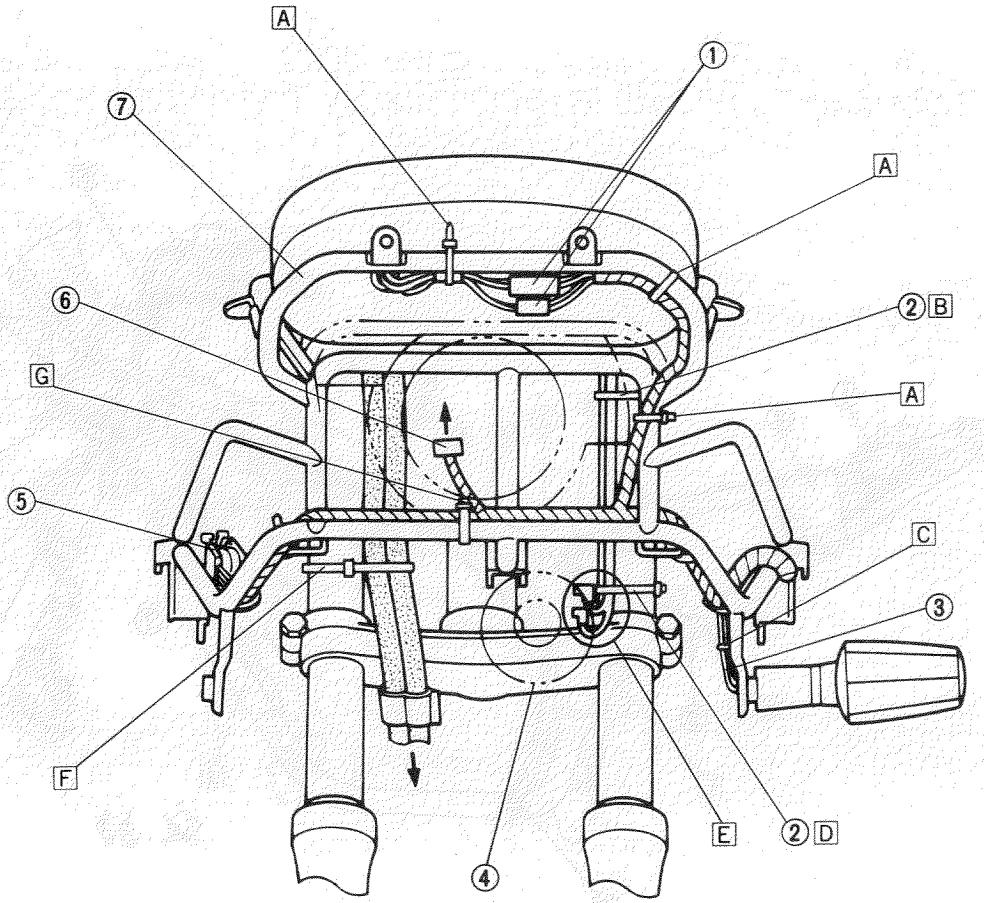
CHASSIS

Lubrication Point	Symbol
Steering bearing (upper/lower)	LS
Front wheel oil seal (right/left)	LS
Rear wheel oil seal	LS
Clutch hub oil seal	LS
Clutch hub fitting area	LS
Rear brake pedal shaft	LS
Shift pedal	LS
Center stand sliding surface	LS
Side stand sliding surface	LS
Tube guide (throttle grip) inner surface	LS
Clutch cable end (lever side)	LS
Brake lever bolt, sliding surface	LS
Clutch lever bolt, sliding surface	LS
Rear footrest pivot	LS
Rear shock absorber (upper)	M
Rear shock absorber (lower - oil seal)	M
Connecting rod bearing (on the swingarm)	M
Swingarm pivot bearing	M
Swingarm pivot oil seal	M
Relay arm bearing (inner)	M
Final drive gear/ring gear	G
Drive shaft (final gear side)	LS
Drive shaft (middle gear side)	LS

CABLE ROUTING

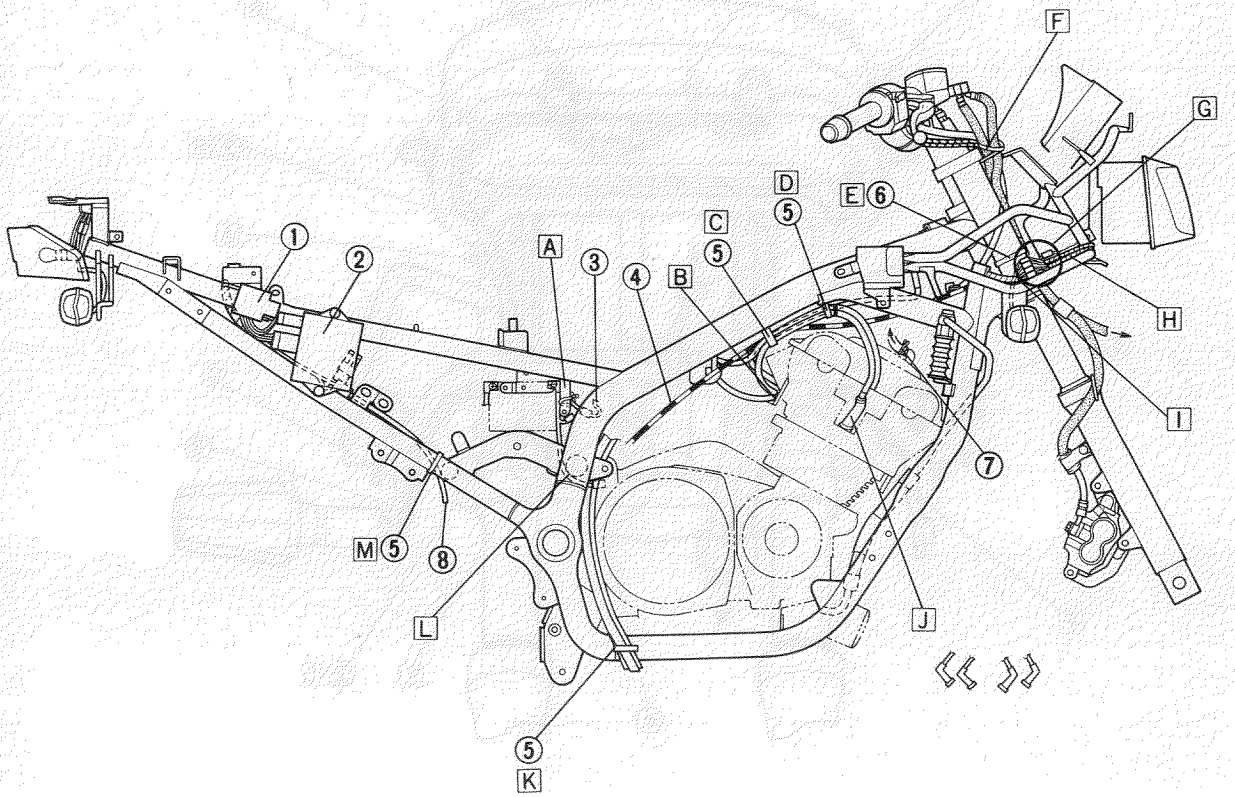
① Meter assembly coupler
② Band
③ Flasher lead
④ Horn
⑤ Thermo switch
⑥ Headlight coupler
⑦ Cowling stay

[A] Clamp the meter lead to the cowling stay.
[B] Clamp the horn lead to the inner fork tube 60 mm from the handle crown.
[C] Pass the left and right flasher leads through the cowling stay guide wire.
[D] Clamp the horn lead to the inner fork tube 20 mm from the under bracket.
[E] When connecting the horn lead, make sure that the lead points downwards from the connector so that water cannot get inside when it rains.
[F] Clamp the brake hoses to the inner fork tube.
[G] Clamp the wire harness to the cowling stay.

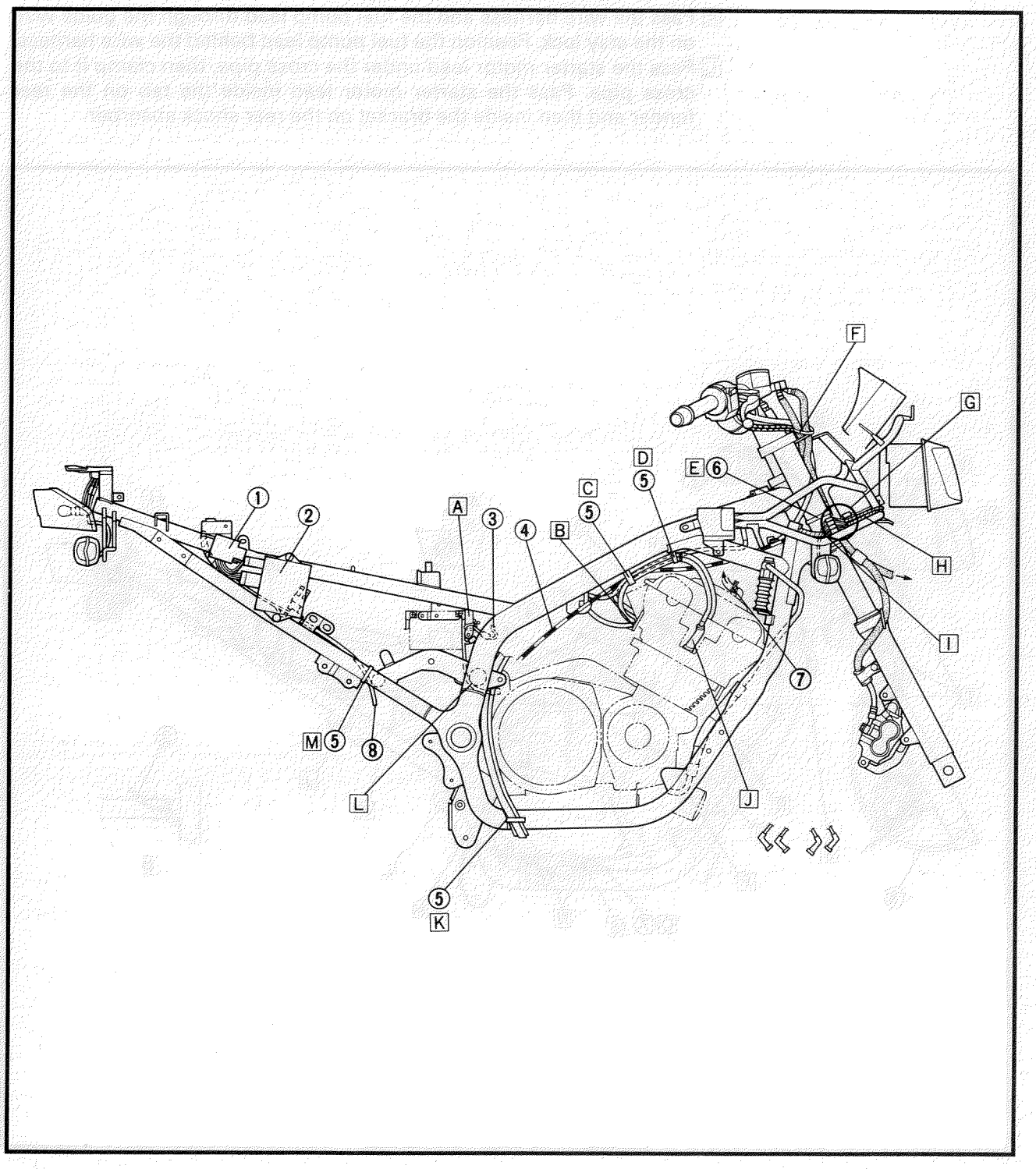


① Fuse box
② Ignitor unit
③ Fuel sender lead
④ Clutch cable
⑤ Clamp
⑥ Band
⑦ Clip
⑧ Rear brake switch lead

Ⓐ Clamp the fuel sender wire harness to the side cover stay.
Ⓑ Clamp the high tension cord, #4, to the upper part, and the #2 cord to the lower part at the marked position.
Ⓒ Clamp the high tension cords and clutch cable and sensing hose.
Ⓓ Clamp the high tension cords, #1, #2, #3 and #4 to the clamp on the frame at the marked positions accordingly.

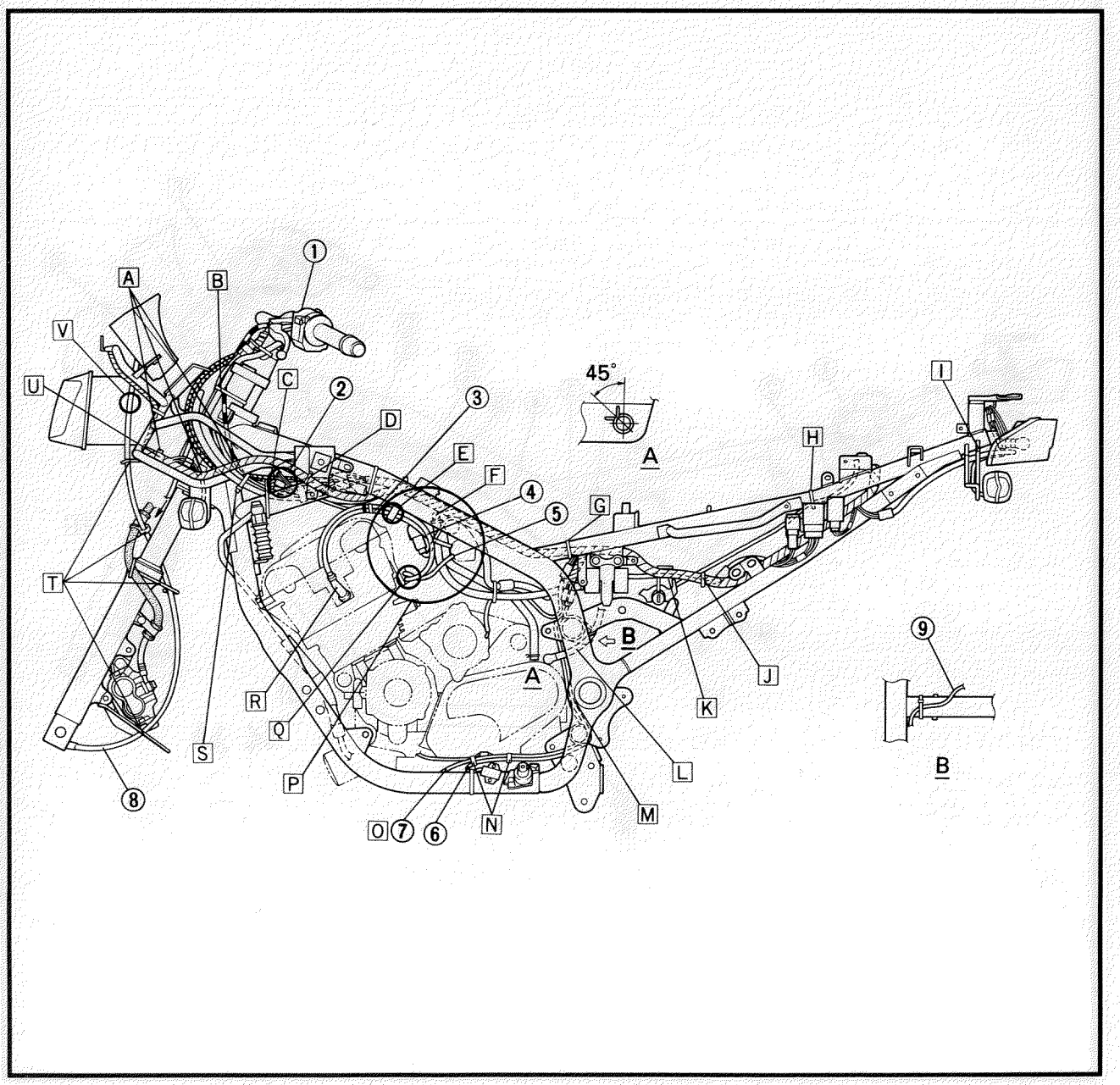


[E] Clamp the brake hoses to the inner tube.
[F] Clamp the brake hoses to the guide wire.
[G] After connecting the left and right flasher leads, clamp them to the cowling stay. Connect the thermo switch lead to the plug with white tape affixed to it.
[H] Clamp the auxiliary light lead and wire harness to the cowling stay.
[I] Clamp the flasher lead and thermo switch lead to the cowling stay.
[J] Position the spark plug cap so that it is facing inwards.
[K] Pass the drain hoses for the tank and the drain hose for the air filter case through the clamp.
[L] Pass the battery ⊖ lead under the cross pipe and secure it to the side of the battery ⊖ terminal.
[M] Clamp the rear brake switch lead to the back stay.

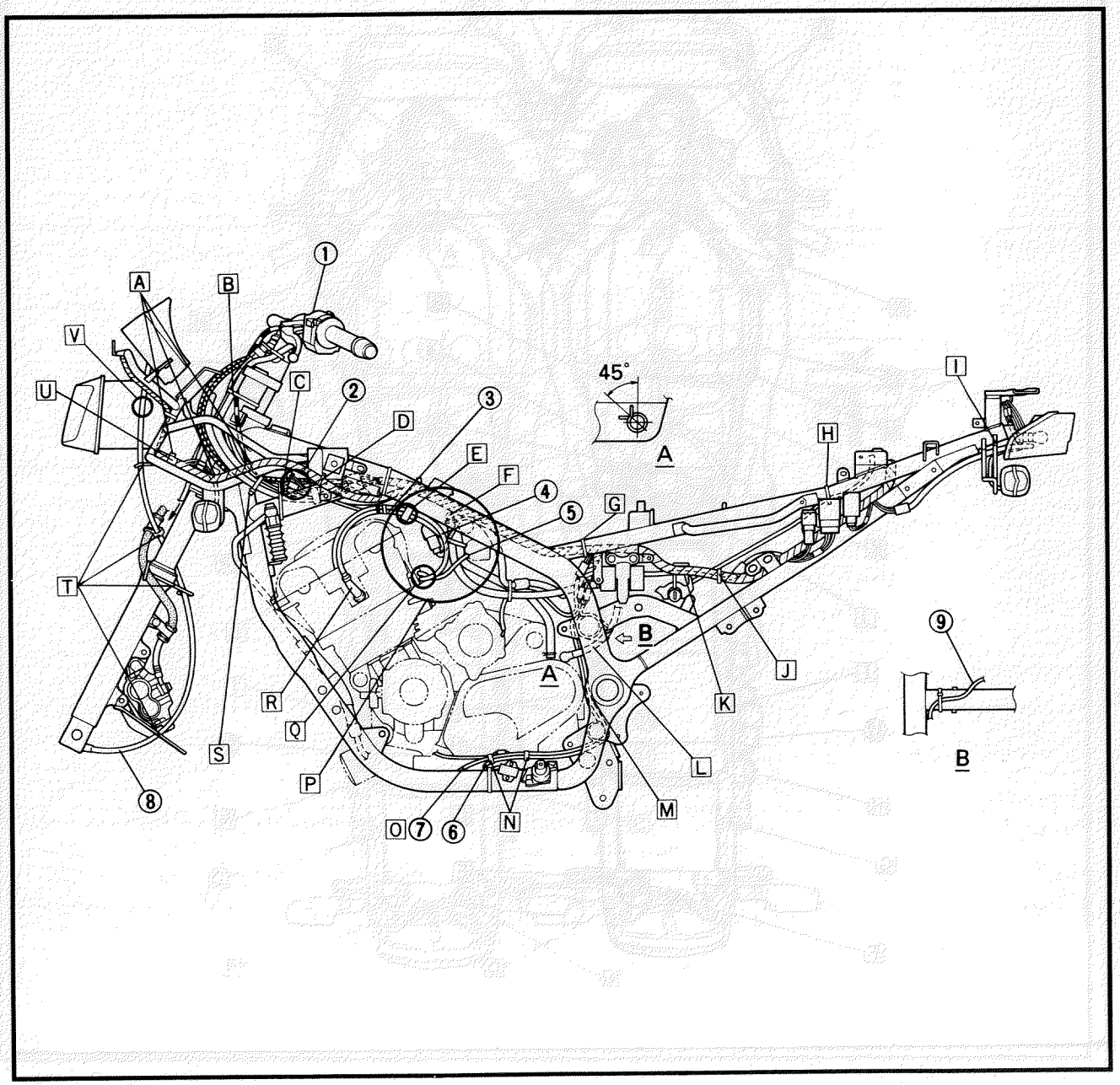


① Handlebar switch (left)
② Main switch coupler
③ High tension cord (#1)
④ High tension cord (#2)
⑤ High tension cord (#4)
⑥ Sidestand switch lead
⑦ Oil level switch lead
⑧ Speed meter cable
⑨ Starter motor lead

[A] Clamp the wire harness to the cowling stay.
[B] Clamp the left handlebar switch lead to the inner tube.
[C] Clamp the left handlebar switch lead, the main switch lead and the starter cable to the tension pipe.
[D] Clamp the wire harness at the point where the white tape is affixed to it.
[E] Clamp the high tension cords (#1 and #2).
[F] Clip both ends of the fuel hose.
[G] Clamp the wire harness inside the seat rail.
[H] Point the clamp end so that it is facing downwards.
[I] Pass the flasher lead inside the protruding tab on the rear fender.
[J] Clamp the wire harness and the fuel pump lead. Position the fuel pump lead behind the wire harness.
[K] Pass the wire harness and the fuel pump lead through the guide wire on the stay lock. Position the fuel pump lead behind the wire harness.
[L] Pass the starter motor lead under the cross pipe, then clamp it to the cross pipe. Pass the starter motor lead inside the tab on the rear fender and then inside the bracket on the rear shock absorber.



[M] Pass the side stand switch lead through the inner part of the rear arm.
[N] Clamp the side stand switch lead and the oil level switch lead with the engine clamp.
[O] Pull the oil level switch lead backwards slightly so that it is not slack.
[P] • Pass the throttle position sensor lead inside the high tension cords (#1 and #2).
• Either one of the high tension cords (#1) and (#2) can be uppermost.
• Pass the cord (#4) outside the fuel hose and breather hose.
• Pass the cord (#1) outside the fuel hose, breather hose and throttle position sensor lead.
[Q] Clamp the high tension cord, #4, to the upper part at the marked position, and the high tension cord #2 to the lower part.
[R] Position the spark plug cap so that it is facing inwards.
[S] Clamp the left handlebar switch lead, main switch lead, starter cable and throttle cables.
[T] Pass the speedometer cable to the left of the headlight and pass it through the guide wire which secures the cowling stay guide wire, brake hose holder, fender bracket guide wire and caliper.
[U] Clamp the part of the wire harness which has white tape affixed to it onto the cowling stay.
[V] When installing the cowling, make sure that the speedometer cable is not pinched between the headlight and the cowling.



PERIODIC INSPECTION AND ADJUSTMENT

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable vehicle operation and a longer service life. The need for costly overhaul work will be greatly reduced. This information applies to vehicles already in service as well as new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

Unit: km

ITEM	REMARKS	BREAK-IN 1,000	EVERY	
			6,000 or 6 months	12,000 or 12 months
Valve	Check valve clearance. Adjust if necessary.		EVERY 24,000	
Spark plugs	Check condition. Clean or replace if necessary.	○	○	○
Air filter	Clean. Replace if necessary.		○	○
Carburetor*	Check idle speed/synchronization/starter operation. Adjust if necessary.	○	○	○
Fuel line*	Check fuel hose for cracks or damage. Replace if necessary.		○	○
Engine oil	Replace (Warm engine before draining).	○	○	○
Engine oil filter*	Replace.	○		○
Final gear oil	Check oil level/oil leakage. Replace every 24,000 or 24 months.	Replace	○	○
Brakes*	Check operation/fluid leakage (see NOTE). Correct if necessary.		○	○
Clutch	Check operation. Adjust if necessary.		○	○
Rear arm pivot*	Check rear arm assembly for looseness. Correct if necessary. Moderately repack every 24,000 or 24 months.***			○
Rear suspension link pivots	Check operation. Apply grease lightly every 24,000 or 24 months.***			○
Wheels*	Check balance/damage/runout. Replace if necessary.		○	○
Wheel bearings*	Check bearings assembly for looseness/damage. Replace if damaged.		○	○
Steering bearings*	Check bearings assembly for looseness. Correct if necessary. Moderately repack every 24,000 or 24 months.**	○		○
Front forks*	Check operation/oil leakage. Repair if necessary.		○	○
Rear shock absorber*	Check operation/oil leakage. Repair if necessary.		○	○
Fittings/Fasteners*	Check all chassis fittings and fasteners. Correct if necessary.	○	○	○
Centerstand and sidestand*	Check operation. Repair if necessary.	○	○	○
Sidestand switch*	Check operation. Clean or replace if necessary.	○	○	○

*: It is recommended that these items be serviced by a Yamaha dealer.
**: Medium weight wheel bearing grease. (bearing type)
***: Molybdenum disulfide grease.

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

NOTE:

Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add the fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

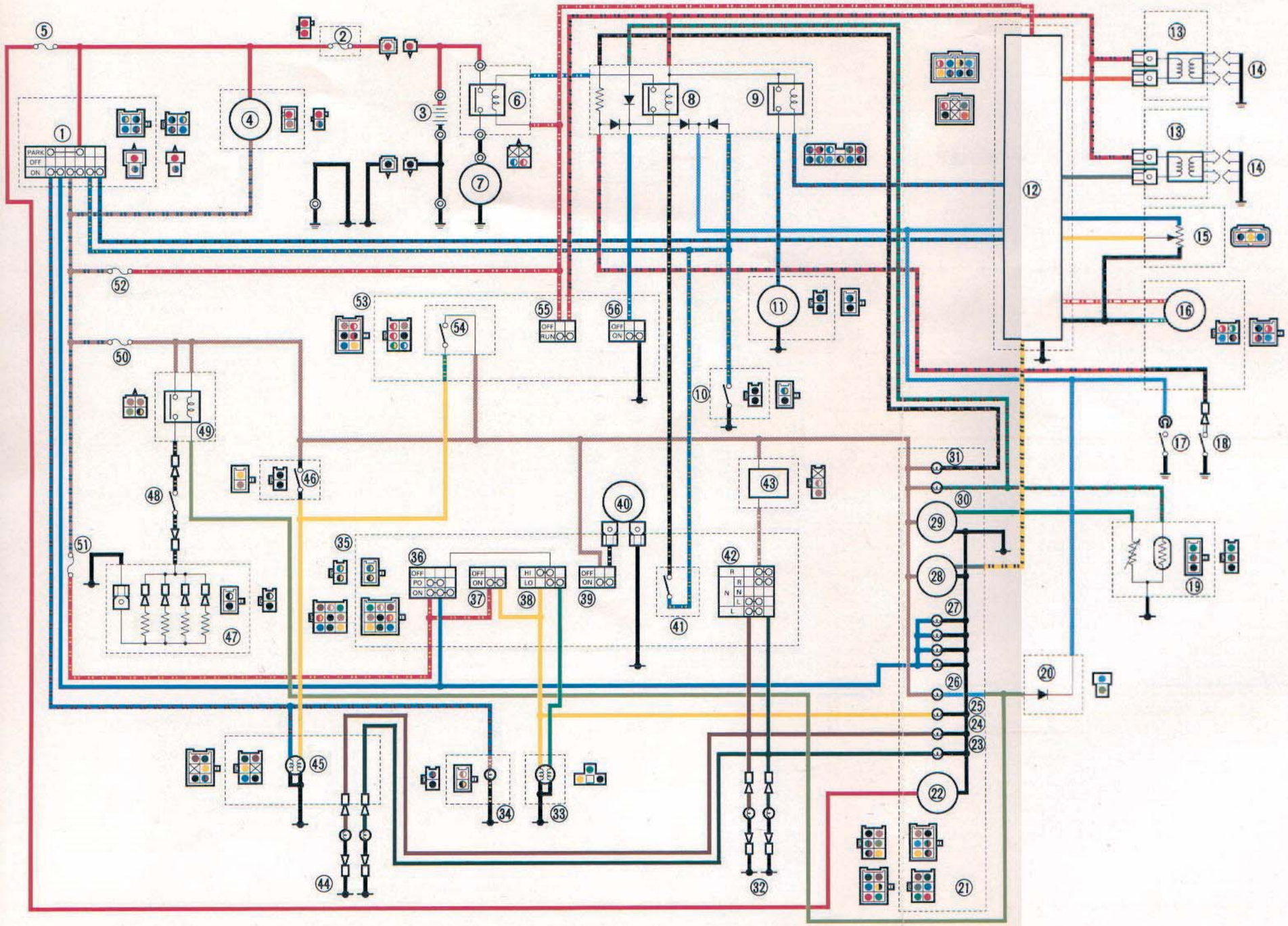
① Main switch
② Fuse (main)
③ Battery
④ A.C. generator
⑤ Fuse (clock)
⑥ Starter relay
⑦ Starter motor
⑧ Starter circuit cut-off relay
⑨ Fuel pump relay
⑩ Sidestand switch
⑪ Fuel pump
⑫ Igniter unit
⑬ Ignition coil
⑭ Spark plug
⑮ Throttle sensor
⑯ Pickup coil
⑰ Neutral switch
⑱ Oil level switch
⑲ Fuel sender
⑳ Diode
㉑ Meter assembly
㉒ Clock
㉓ "TURN" indicator light (right)
㉔ "TURN" indicator light (left)
㉕ "HIGH BEAM" indicator light
㉖ "NEUTRAL" indicator light
㉗ Meter light
㉘ Tachometer
㉙ Fuel meter
㉚ "FUEL LEVEL" indicator light
㉛ "OIL LEVEL" indicator light
㉜ Front flasher light
㉝ Headlight
㉞ Auxiliary light
㉟ Handlebar switch (left)
㊱ "LIGHTS" switch
㊲ "PASS" switch
㊳ "LIGHTS" (dimmer) switch
㊴ "HORN" switch
㊵ Horn
㊶ Clutch switch
㊷ "TURN" signal switch
㊸ Flasher relay
㊹ Rear flasher light
㊺ Tail/brake light
㊻ Rear brake switch
㊼ Heater
㊽ Thermo switch
㊾ Heater relay
㊿ Fuse (signal)
(51) Fuse (head)
(52) Fuse (ignition)
(53) Handlebar switch (right)
(54) Front brake switch
(55) "ENGINE STOP" switch
(56) "START" switch

XJ900S(G) '95
WIRING DIAGRAM

XJ900S(G) '95
PLAN DE CABLAGE

XJ900S(G) '95
SCHALTPLAN

XJ900S(G) '95
SCHEMA IMPIANTO ELETTRICO



COLOR CODE/CODE DE COULEUR/ FARBENKODIERUND/CODIE COLORI

- Black / Noir / Schwarz / Nero
- Blue / Bleu / Blau / Blu
- Brown / Brun / Braun / Marrone
- Chocolate / Chocolat / Schokoladenfarbe / Cioccolate
- Dark green / Vert foncé / Dunkelgrün / Verde scuro
- Green / Vert / Grün / Verde
- Gray / Gris / Grau / Grigio
- Light green / Vert clair / Hellgrün / Verde chiaro
- Orange / Orange / Orange / Aranjado
- Red / Rouge / Rot / Rosso
- Sky blue / Bleu ciel / Himmelblau / Celeste
- Yellow / Jaune / Gelb / Giallo
- Black/Blue / Noir/Bleu / Schwarz/Blau / Nero/Blu
- Black/Red / Noir/Rouge / Schwarz/Rot / Nero/Rosso
- Black/White / Noir/Blanc / Schwarz/Weiß / Nero/Bianco
- Black/Yellow
- Blue/Black / Bleu/Noir / Blau/Schwarz / Blu/Nero
- Blue/Red / Bleu/Rouge / Blau/Rot / Blu/Rosso
- Blue/White / Bleu/Blanc / Blau/Weiß / Blu/Bianco
- Blue/Yellow / Bleu/Jaune / Blau/Gelb / Blu/Giallo
- Brown/Blue / Brun/Bleu / Braun/Blau / Marrone/Blu
- Brown/White / Brun/Blanc / Braun/Weiß / Marrone/Bianco
- Green/Red / Vert/Rouge / Grün/Rot / Verde/Rosso
- Green/Yellow / Vert/Jaune / Grün/Gelb / Verde/Giallo
- Red/Black / Rouge/Noir / Rot/Schwarz / Rosso/Nero
- Red/Blue / Rouge/Bleu / Rot/Blau / Rosso/Blu
- Red/White / Rouge/Blanc / Rot/Weiß / Rosso/Bianco
- Red/Yellow / Rouge/Jaune / Rot/Gelb / Rosso/Giallo
- White/Green / Blanc/Vert / Weiß/Grün / Bianco/Verde
- White/Red / Blanc/Rouge / Weiß/Rot / Bianco/Rosso
- Yellow/Black / Jaune/Noir / Gelb/Schwarz / Giallo/Nero